

WHAT IS CLAIMED IS:

1           1.     A collapsible rolling stand for use with an elongated normally horizontally  
2 oriented object attached thereto, said stand having a front end portion and a rear end portion, and  
3 being capable of being manipulated between open and closed positions, wherein the object is  
4 generally vertically oriented when the stand is closed and in a generally vertical orientation, and  
5 wherein the object is generally horizontally oriented when the stand is in its open position, said  
6 stand comprising:

7           a top frame having a generally planar portion being configured to have the object secured  
8 thereto, said top frame planar portion being generally vertical when said stand is in its closed and  
9 generally vertical position;

10          a folding mechanism supporting said top frame, including a handle operatively connected  
11 to one end portion of a pair of spaced apart first members that have opposite ends defining  
12 contact points with the ground and a pair of spaced apart second members each having wheels  
13 for enabling a user to roll said stand, said first and second members being pivotally connected to  
14 one another and configured so that the weight of the object provides a substantial portion of the  
15 necessary force needed to pivot said first and second pairs of members to further separate said  
16 forward contact point from said rear wheels and move said stand from said closed position to  
17 said open position wherein said top frame planar portion is substantially horizontal.

18          2.     A stand as defined in claim 1 wherein said folding mechanism further comprises:

19          said first members are located on each side of said stand and are operatively connected to  
20 and pivotable relative to a rear portion of said top frame planar portion;

21          each of said second members having a pivot connection to one of said first members at a  
22 point intermediate the ends of said first member, each second member having one of said wheels  
23 connected to a rearward end portion thereof and an extension located forwardly of said pivot  
24 connection at a predetermined angle relative to the lengthwise direction of said second member;

25          a link member pivotally attached to the distal end of said extension and to said top frame  
26 planar portion;

27          a handle connected to one of said top frame planar portion or said first members;

28          a locking mechanism for releasably holding said stand in at least the closed position;

1        wherein when said stand is in its closed position, actuating said locking mechanism  
2 enables said second member to pivot about said pivot connection causing the weight of the  
3 object to move said wheels a short distance away from said top frame planar portion, further  
4 movement of said stand in the rearward direction causing said second members and wheel to  
5 rotate toward the rear of said stand to the open position where the top frame planar portion is  
6 oriented in said substantially horizontal position.

7        3.        A stand as defined in claim 2 wherein said handle comprises a cross member that  
8 extends between and is connected to both of said first members.

9        4.        A stand as defined in claim 3 wherein said cross member is positioned at an  
10 elevation below said top frame planar portion and has curved shape upwardly from each of said  
11 first members.

12        5.        A stand as defined in claim 4 wherein said first members have a generally  
13 transverse downward extension beyond said pivot connection to said top frame member, with  
14 said handle being connected to the ends of each downward extension.

15        6.        A stand as defined in claim 4 wherein said first members and said handle are an  
16 integrally formed unitary structure.

17        7.        A stand as defined in claim 2 wherein said predetermined angle is within the  
18 range of about 40 to about 90 degrees.

19        8.        A stand as defined in claim 2 wherein said locking mechanism comprises a  
20 sliding pin having an operating knob operatively attached to one of said first and second  
21 members that is configured to operatively engage the other of said first and second members  
22 when said stand is in at least its closed position .

23        9.        A stand as defined in claim 8 wherein said sliding pin is biased toward  
24 engagement.

25        10.       A stand as defined in claim 2 wherein said first members have a generally  
26 transverse extensions at said ground engaging opposite ends and at least one front end bridge  
27 interconnecting said opposite ends.

1           11.    A stand as defined in claim 10 wherein a cross brace interconnects said first  
2 members adjacent the junction of said first members and said transverse extensions, said  
3 transverse extensions, front end bridge and cross bridge defining a carrying shelf.

4           12.    A stand as defined in claim 11 further including a sheet of support material  
5 substantially covering said shelf and a portion of said first members adjacent said transverse  
6 extensions.

7           13.    A stand as defined in claim 1 wherein the object is a portable circular saw.

8           14.    A stand as defined in claim 2 further comprising a spring for biasing said stand  
9 toward its closed position when in its open position, such that an operator is not required to exert  
10 more than a small force to move said stand to its closed position.

11          15.    A stand as defined in claim 14 wherein said small force is a small fraction of the  
12 weight of the object.

13          16.    A stand as defined in claim 14 wherein said spring is substantially unloaded when  
14 the stand is in its closed position.

15          17.    A stand as defined in claim 14 wherein said spring is a tension spring having one  
16 end connected to said second member and its other end connected to said first member, said  
17 spring being loaded into tension as said stand moves toward its open position.

18          18.    A stand as defined in claim 1 wherein said top frame planar portion comprises  
19 two side frame members and two end frame members interconnected in a generally planar  
20 rectangular configuration.

21          19.    A stand as defined in claim 2 further comprising at least one stop member  
22 attached to each second member for contacting said first member limiting the pivoting  
23 movement there between during opening of said stand so that said top planar portion is held in  
24 said generally horizontal position.

25          20.    A collapsible rolling stand for an elongated normally horizontally oriented object  
26 attached thereto, said stand having a front end portion and a rear end portion, and being capable  
27 of being manipulated between open and closed positions, wherein the object is generally  
28 vertically oriented when the stand is closed and in a generally vertical orientation, and wherein

1 the object is generally horizontally oriented when the stand is in its open position, said stand  
2 comprising:

3 a top frame portion generally defining a plane and being configured to have the object  
4 secured thereto;

5 a main side strut on each side of said stand pivotally connected to a rear portion of said  
6 top frame portion and extending to a ground engaging front contact point;

7 a rear leg having a pivotal connection for connecting to each said side strut at a point  
8 intermediate the ends of said main side strut, each rear leg having a wheel connected to a distal  
9 end portion of said rear leg and an extension located forwardly of said pivotal connection at a  
10 predetermined angle relative to the lengthwise direction of said rear leg;

11 a link member pivotally attached to the distal end of said rear leg extension and to said  
12 frame portion;

13 a handle connected to one of said top frame portion or said main side struts;

14 a locking mechanism for releasably holding said stand in at least the closed position;

15 wherein when said stand is in its closed position, actuating said locking mechanism  
16 enables said rear leg to pivot about said pivotal connection causing the weight of the object to  
17 move said wheel a short distance away from said top frame portion, further movement of said  
18 stand in the rearward direction causing said rear leg and wheel to rotate toward the rear of said  
19 stand to the open position where the object is oriented in a horizontal position.

20  
21 21. A stand as defined in claim 1 wherein said top frame includes an outwardly  
22 directed transverse extension at the front end thereof, said extension having a slot on each side  
23 thereof for receiving an end of a link member of said folding mechanism, said folding  
24 mechanism further comprising:

25 said first members are located on each side of said stand and are operatively connected to  
26 and pivotable relative to a rear portion of said top frame portion;

27 each of said second members having a pivot connection to one of said first members at a  
28 point intermediate the ends of said first member, each second member having one of said wheels

1 connected to a lower end portion thereof, an upper end thereof extending upwardly beyond said  
2 pivot connection;

3 a link member having one end pivotally attached to said upper end of said second  
4 member and an opposite end pivotally connected to and slidable in said top frame extension slot;

5 an over center stop member attached to one of each link member and second member that  
6 are connected together for limiting the pivoting movement therebetween during opening of said  
7 stand so that said top planar portion is held in said generally horizontal position;

8 a handle connected to one of said top frame planar portion or said first members;

9 a locking mechanism for releasably holding said stand in at least the closed position;

10 wherein when said stand is in its closed position, actuating said locking mechanism  
11 enables said second member to pivot about said pivot connection causing the weight of the  
12 object to move said wheels a short distance away from said top frame portion, further movement  
13 of said stand in the rearward direction causing said second members and wheel to rotate toward  
14 the rear of said stand and said opposite end of said link member to slide outwardly in said slot as  
15 said stand moves to its open position where the top frame portion is oriented in said substantially  
16 horizontal position.

17 22. A stand as defined in claim 1 wherein said folding mechanism further comprises:

18 said first members are located on each side of said stand and are operatively connected to  
19 and pivotable and slidable between two positions relative to a rear portion of said top frame  
20 planar portion;

21 a locking mechanism for at least one first member for releasably holding said first  
22 member from slidably moving relative to said rear portion of said top frame planar portion;

23 each of said second members having a pivot connection to one of said first members at a  
24 point intermediate the ends of said first member, each second member having one of said wheels  
25 connected to a lower end portion thereof and an upper end portion extending upwardly of said  
26 pivot connection;

27 a link member having one end pivotally attached to said upper end portion of each said  
28 second member and an opposite end pivotally attached to said top frame planar portion;

1 an over center stop member attached to one of each link member and second member that  
2 are connected together for limiting the pivoting movement therebetween during opening of said  
3 stand so that said top planar portion is held in said generally horizontal position;

4 a handle connected to one of said top frame planar portion or said first members;

5 wherein when said stand is in its closed position, actuating said locking mechanism  
6 enables said second member to pivot about said pivot connection causing the weight of the  
7 object to move said wheels a short distance away from said top frame planar portion, further  
8 movement of said stand in the rearward direction causing said second members and wheel to  
9 rotate toward the rear of said stand to the open position where the top frame planar portion is  
10 oriented in said substantially horizontal position.

11 23. A stand as defined in claim 22 wherein said first and second positions are the  
12 closed and open positions of said stand.

13 24. A stand as defined in claim 1 wherein said top frame includes an outwardly  
14 directed transverse extension at the front end thereof, said extension having a slot on each side  
15 thereof for receiving an end of a link member of said folding mechanism, said folding  
16 mechanism further comprising:

17 said first members are located on each side of said stand and are operatively connected to  
18 and pivotable relative to a rear portion of said top frame portion;

19 each of said second members having a pivot connection to one of said first members at a  
20 point intermediate the ends of said first member, each second member having one of said wheels  
21 connected to a lower end portion thereof, an upper end thereof extending upwardly beyond said  
22 pivot connection;

23 a pair of first link members, each having a first end pivotally attached to said upper end  
24 of said second member and a second end pivotally connected to a first end of a second link  
25 member;

26 a pair of second link members, each having a first end pivotally connected to said second  
27 end of said first link member and to the first end of a third link member and a second end  
28 pivotally connected to and slidable in said top frame extension slot;

1 a pair of third link members, each having a first end pivotally connected to said first end  
2 of said second link member and pivotally connected to said second end of said first link member,  
3 said third link member having a second end pivotally connected to said ground contact end of  
4 said first member;

5 a handle connected to one of said top frame planar portion or said first members;

6 a locking mechanism for releasably holding said stand in at least the closed position; ...

7 wherein when said stand is in its closed position, actuating said locking mechanism  
8 enables said second members to pivot about said pivot connection causing the weight of the  
9 object to move said second members and wheels away from said top frame, said pivoting  
10 movement of second members in the rearward direction causing said upper end of said second  
11 members to move said first link members forwardly and move the first end of said second and  
12 third link members forwardly while simultaneously moving said second end of said second link  
13 members downwardly in said slots as said stand moves to its open position where the top frame  
14 planar portion is oriented in said substantially horizontal position.

15 25. A stand as defined in claim 1 wherein said folding mechanism further comprises:

16 said first members are located on each side of said stand and are operatively connected to  
17 and pivotable relative to a rear portion of said top frame portion;

18 each of said second members having a pivot connection to one of said first members at a  
19 point intermediate the ends of said first member, each second member having one of said wheels  
20 connected to a lower end portion thereof, an upper end thereof extending upwardly beyond said  
21 pivot connection;

22 a pair of first link members, each having a first end pivotally connected to and slidable  
23 relative to said upper end of said second member and a second end pivotally connected to first  
24 end portion of a second link member;

25 a pair of second link members, each having a first end pivotally connected to said second  
26 end of said first link member and to the first end of a third link member and a second end  
27 pivotally connected to said top frame;

28 a pair of third link members, each having a first end pivotally connected to said first end  
29 of said second link member and pivotally connected to said second end of said first link member

1 and to said second end of said first link member, said third link member having a second end  
2 pivotally connected to said ground contact end of said first member;

3 a handle connected to one of said top frame planar portion or said first members;

4 a locking mechanism for releasably holding said stand in at least the closed position;

5 wherein when said stand is in its closed position, actuating said locking mechanism  
6 enables said second members to pivot about said pivot connection causing the weight of the  
7 object to move said second members and wheels away from said top frame, said pivoting  
8 movement of said second member in the rearward direction causing said upper end of said  
9 second members to move said first link members forwardly and move the first end of said second  
10 and third link members forwardly while simultaneously sliding said upper end of said second  
11 members rearwardly along said first link member as said stand moves to its open position where  
12 the top frame planar portion is oriented in said substantially horizontal position.

13 26. A stand as defined in claim 1 wherein said top frame has a pair of horizontal slots  
14 located on opposite sides of the front thereof, said folding mechanism further comprises:

15 said first members are located on each side of said stand and are operatively connected to  
16 and pivotable relative to a rear portion of said top frame planar portion, said first members  
17 having an enlarged portion at an intermediate point along their length;

18 each of said second members having a pivot connection to one of said first members at or  
19 near said enlarged portion of said first member, each second member having one of said wheels  
20 connected to a rearward end portion thereof and a first toothed gear fixed thereto, said first gear  
21 having a center opening through which a first pivot pin is attached to said first member, thereby  
22 enabling said second member and first toothed gear to pivot around said pivot pin;

23 a pair of link members, each having a first end pivotally attached to a second pin secured  
24 to said first member at or near said enlarged portion and a second end pivotally attached to said  
25 top frame, each link member having a second toothed gear fixed thereto, said second gear having  
26 a center opening through which a second pivot pin is attached to said first member, thereby  
27 enabling said second member and second gear to pivot around said second pivot pin, each of said  
28 link members having a second end pivotally connected to said top frame slot;

29 said teeth of first and second gears engaging each other;



1 a handle connected to one of said top frame planar portion or said first members;  
2 a locking mechanism for releasably holding said stand in at least the closed position;  
3 wherein when said stand is in its closed position, actuating said locking mechanism  
4 enables said second member to pivot about said pivot connection causing the weight of the  
5 object to move said wheels away from said top frame planar portion, the movement of said stand  
6 in the rearward direction causing said second members and wheels to rotate toward the rear of  
7 said stand toward the open position, said engaged gears causing said link members to rotate in a  
8 direction opposite the rotation of said second member to the open position where the top frame  
9 planar portion is oriented in said substantially horizontal position.